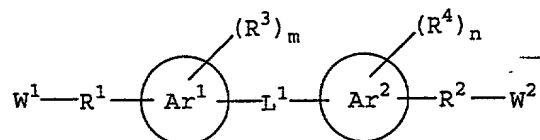


WHAT IS CLAIMED IS:

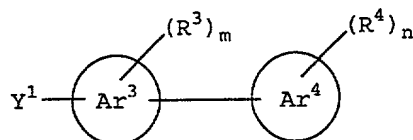
1. A pharmaceutical composition comprising:

(a) compound selected from the group consisting of an aromatic compound of the formula:

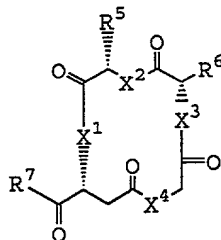


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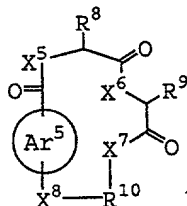
a heteroaromatic compound of the formula:



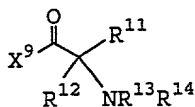
a cyclic compound of the formula:



10 a bicyclic compound of the formula:



and an amino acid derivative of the formula:



or salts thereof,

wherein

each of  $W^1$  and  $W^2$  is independently  $CO_2R^{15}$ ,  $C(=NH)NH(OH)$ ,  $SO_3R^{15}$ ,  $C(=NH)NH_2$ ,  $OPO(OR^{15})_2$ ,  $C(=O)CF_3$  or  $PO(OR^{15})_2$ ;

5 each of  $Ar^1$ ,  $Ar^2$ ,  $Ar^4$  and  $Ar^5$  is independently  $C_6-C_{20}$  aryl or  $C_1-C_{20}$  heteroaryl;

$Ar^3$  is  $C_1-C_{20}$  heteroaryl;

each of  $X^1$ ,  $X^2$ ,  $X^3$ ,  $X^4$ ,  $X^5$ ,  $X^6$ ,  $X^7$  and  $X^8$  is independently methylene, O, S or  $NR^{16}$ ;

each of  $R^1$  and  $R^2$  is independently a bond,  $C_1-C_6$  alkylene, or halogenated- $C_1-C_6$  alkylene;

each of  $R^3$  and  $R^4$  are independently halogen,  $-Z^1$  or  $C_1-C_6$  alkyl;

each of  $X^9$ ,  $Y^1$  and  $Z^1$  is independently  $OR^{17}$ ,  $SR^{17}$  or  $NR^{17}R^{18}$ ;

15 each of  $R^5$  and  $R^6$  is independently amino acid side chain residue or a moiety of the formula  $-R^{19}-W^3$ ;

each of  $R^8$ ,  $R^9$  and  $R^{11}$  is independently an amino acid side chain residue, provided  $R^{11}$  is not H or  $CH_3$ ;

$R^7$  is  $OR^{20}$ ,  $NR^{21}R^{22}$ , or from about 1 to about 10 amino acids;

$R^{10}$  is  $C_1-C_6$  alkylene;

20  $R^{12}$  is  $C_1-C_6$  alkyl or  $C_6-C_{20}$  aralkyl;

$W^3$  is  $C(=O)X^{10}$ ;

$X^{10}$  is  $OR^{23}$  or  $NR^{24}R^{25}$ ;

each of  $R^{13}$ ,  $R^{15}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{23}$  and  $R^{24}$  is independently hydrogen or  $C_1-C_6$  alkyl;

each  $R^{16}$  is independently H,  $C_6-C_{20}$  aryl or an amide protecting group;

5  $R^{19}$  is  $C_1-C_6$  alkylene;

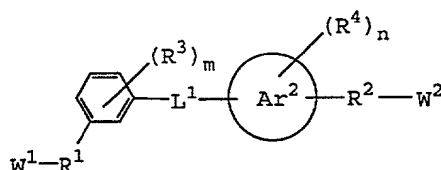
each of  $R^{22}$  and  $R^{25}$  is independently H,  $C_1-C_6$  alkyl or an amide protecting group;

$R^{14}$  is H,  $C_1-C_6$  alkyl or an amine protecting group;

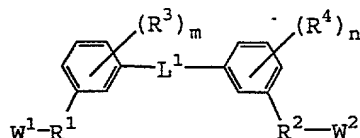
L is a linker comprising from 1 to about 20 atoms; and  
each of m and n is independently an integer from 0 to 2; and

(b) a pharmaceutically acceptable carrier.

2. The composition of Claim 1, wherein said compound is of the formula:



15 3. The composition of Claim 2, wherein said compound is of the formula:



4. The composition of Claim 3, wherein m and n are 0.

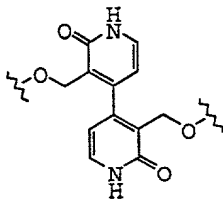
5. The composition of Claim 4, wherein  $W^1$  and  $W^2$  are  $CO_2H$ .

6. The composition of Claim 5, wherein  $R^1$  and  $R^2$  are a bond.
7. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}_2\text{CH}_2-$ .
8. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}_2\text{O}-$ .
9. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}=\text{CHC}(=\text{O})-$ .
10. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}_2\text{CH}_2\text{CH}(\text{OH})-$ .
11. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}=\text{CH}-$ .
12. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}(\text{OH})\text{CH}(\text{OH})-$ .
13. The composition of Claim 12, wherein the stereochemistry of hydroxy groups is (S,S).

14. The composition of Claim 6, wherein  $L^1$  is  $-\text{CH}_2\text{N}(\text{R}^{26})\text{CH}_2-$ , wherein  $\text{R}^{26}$  is H,  $\text{C}_1\text{-C}_6$  alkyl or an amine protecting group.

15. The composition of Claim 14, wherein  $\text{R}^{26}$  is  $-\text{CH}_2\text{CO}_2\text{H}$ .

16. The composition of Claim 6, wherein  $L^1$  is a moiety of the formula:



17. The composition of Claim 5, wherein  $R^1$  and  $R^2$  are  $-\text{CH}_2-$ .
18. The composition of Claim 17, wherein  $L^1$  is ethylene.
19. The composition of Claim 17, wherein  $L^1$  is  $-\text{CH}=\text{CH}-$ .
20. The composition of Claim 5, wherein  $R^1$  is methylene,  $R^2$

is a bond and L<sup>1</sup> is ethylene.

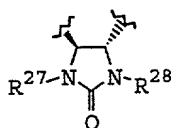
21. The composition of Claim 4, wherein W<sup>1</sup> and W<sup>2</sup> are PO(OR<sup>15</sup>)<sub>2</sub>, and R<sup>1</sup> and R<sup>2</sup> are a bond.

22. The composition of Claim 21, wherein L<sup>1</sup> is ethylene.

23. The composition of Claim 22, wherein R<sup>15</sup> is ethyl.

24. The composition of Claim 22, wherein R<sup>15</sup> is H.

25. The composition of Claim 21, wherein L<sup>1</sup> is a moiety of the formula:

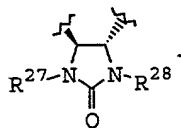


wherein

each of R<sup>27</sup> and R<sup>28</sup> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>6</sub>-C<sub>10</sub> aralkyl or a protecting group.

26. The composition of Claim 25, wherein each of R<sup>27</sup> and R<sup>28</sup> is independently 4-methoxybenzyl or H.

27. The composition of Claim 6, wherein L<sup>1</sup> is a moiety of the formula:



wherein

each of R<sup>27</sup> and R<sup>28</sup> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>6</sub>-C<sub>10</sub>

aralkyl or a protecting group.

28. The composition of Claim 27, wherein each of  $R^{27}$  and  $R^{28}$  is independently 4-methoxybenzyl or H.

29. The composition of Claim 4, wherein  $L^1$  is  $-\text{CH}=\text{CH}-$ ,  $W_1$  and  $W_2$  are  $\text{C}(=\text{NH})\text{NH}(\text{OH})$ , and  $R_1$  and  $R_2$  are bond.

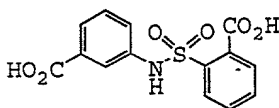
30. The composition of Claim 4, wherein  $L^1$  is  $-\text{CH}_2\text{O}-$ ,  $W_1$  and  $W_2$  are  $\text{C}(=\text{O})\text{CF}_3$ , and  $R_1$  and  $R_2$  are bond.

31. The composition of Claim 4, wherein  $L^1$  is  $-\text{CH}_2\text{CH}_2-$ ,  $R_1$  and  $W_1$  together forms  $-(\text{CH}_2)_a\text{CH}(\text{NHR}^{29})\text{CO}_2\text{H}$ , wherein  $a$  is an integer from 0 to 2 and  $R^{29}$  is H,  $\text{C}_1$ - $\text{C}_6$  alkyl or an amine protecting group.

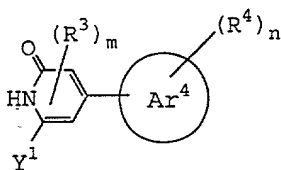
32. The composition of Claim 31, wherein  $R_2$  and  $W_2$  together forms  $-(\text{CH}_2)_b\text{CH}(\text{NHR}^{30})\text{CO}_2\text{H}$ , wherein  $b$  is an integer from 0 to 2 and  $R^{30}$  is H,  $\text{C}_1$ - $\text{C}_6$  alkyl or an amine protecting group.

33. The composition of Claim 32, wherein  $a$  and  $b$  are 1, and  $R^{29}$  and  $R^{30}$  are  $-\text{C}(=\text{O})\text{CH}_3$ .

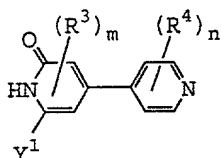
34. The composition of Claim 2, wherein said compound is of the formula:



35. The composition of Claim 1, wherein said compound is of the formula:



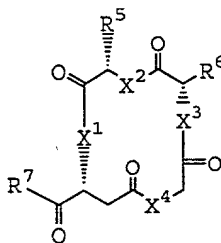
36. The composition of Claim 35, wherein said compound is of the formula:



37. The composition of Claim 36, wherein Y¹ is -NH₂.

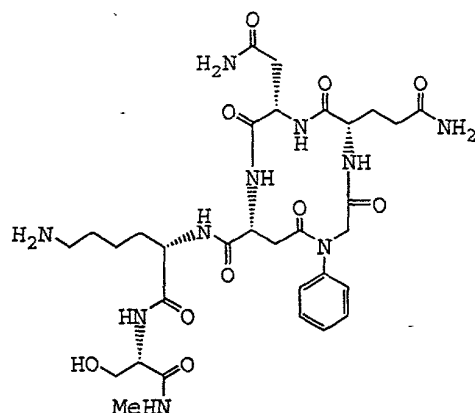
38. The composition of Claim 37, wherein m and n are 0.

39. The composition of Claim 1, wherein said compound is of the formula:

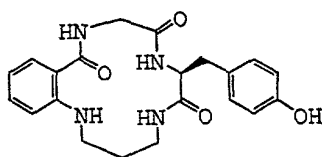


10 wherein X¹, X², X³ and X⁴ are NR¹⁶.

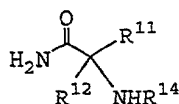
40. The composition of Claim 39, wherein said compound is of the formula:



41. The composition of Claim 1, wherein said compound is of the formula:



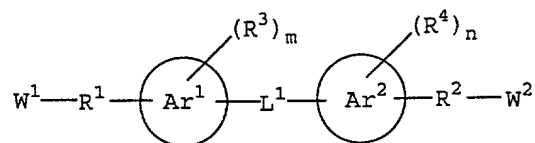
42. The composition of Claim 1, wherein said compound is of the formula:



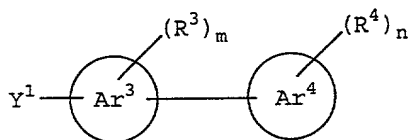
43. The composition of Claim 42, wherein  $R^{11}$  is lysine side chain residue,  $R^{12}$  is 2'-phenylethyl and  $R^{14}$  is  $-C(=O)CH_3$ .



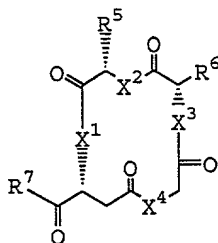
44. A method for inhibiting Fc receptor binding of immunoglobulin in a patient comprising administering to such patient a pharmaceutically effective amount of a compound selected from the group consisting of substituted or unsubstituted benzoic acids, nucleosides and analogs thereof, folic acid and its derivatives, an aromatic compound of the formula:



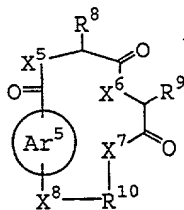
a heteroaromatic compound of the formula:



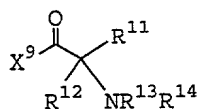
a cyclic compound of the formula:



a bicyclic compound of the formula:



and an amino acid derivative of the formula:



or salts thereof,

wherein

each of  $W^1$  and  $W^2$  is independently  $\text{CO}_2\text{R}^{15}$ ,  $\text{C}(=\text{NH})\text{NH}(\text{OH})$ ,  $\text{SO}_3\text{R}^{15}$ ,

5  $\text{C}(=\text{NH})\text{NH}_2$ ,  $\text{OPO}(\text{OR}^{15})_2$ ,  $\text{C}(=\text{O})\text{CF}_3$  or  $\text{PO}(\text{OR}^{15})_2$ ;

each of  $\text{Ar}^1$ ,  $\text{Ar}^2$ ,  $\text{Ar}^4$  and  $\text{Ar}^5$  is independently  $\text{C}_6\text{-C}_{20}$  aryl or  $\text{C}_1\text{-C}_{20}$  heteroaryl;

$\text{Ar}^3$  is  $\text{C}_1\text{-C}_{20}$  heteroaryl;

each of  $\text{X}^1$ ,  $\text{X}^2$ ,  $\text{X}^3$ ,  $\text{X}^4$ ,  $\text{X}^5$ ,  $\text{X}^6$ ,  $\text{X}^7$  and  $\text{X}^8$  is independently methylene, O, S or  $\text{NR}^{16}$ ;

each of  $\text{R}^1$  and  $\text{R}^2$  is independently a bond,  $\text{C}_1\text{-C}_6$  alkylene, or halogenated  $\text{C}_1\text{-C}_6$  alkylene;

each of  $\text{R}^3$  and  $\text{R}^4$  are independently halogen,  $-\text{Z}^1$  or  $\text{C}_1\text{-C}_6$  alkyl;

each of  $\text{X}^9$ ,  $\text{Y}^1$  and  $\text{Z}^1$  is independently  $\text{OR}^{17}$ ,  $\text{SR}^{17}$  or  $\text{NR}^{17}\text{R}^{18}$ ;

15 each of  $\text{R}^5$  and  $\text{R}^6$  is independently amino acid side chain residue or a moiety of the formula  $-\text{R}^{19}\text{-W}^3$ ;

each of  $\text{R}^8$ ,  $\text{R}^9$  and  $\text{R}^{11}$  is independently an amino acid side chain residue, provided  $\text{R}^{11}$  is not H or  $\text{CH}_3$ ;

$\text{R}^7$  is  $\text{OR}^{20}$ ,  $\text{NR}^{21}\text{R}^{22}$ , or from about 1 to about 10 amino acids;

20  $\text{R}^{10}$  is  $\text{C}_1\text{-C}_6$  alkylene;

$\text{R}^{12}$  is  $\text{C}_1\text{-C}_6$  alkyl or  $\text{C}_6\text{-C}_{20}$  aralkyl;

W<sup>3</sup> is C(=O)X<sup>10</sup>;

X<sup>10</sup> is OR<sup>23</sup> or NR<sup>24</sup>R<sup>25</sup>;

each of R<sup>13</sup>, R<sup>15</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>20</sup>, R<sup>21</sup>, R<sup>23</sup> and R<sup>24</sup> is independently hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

5 each R<sup>16</sup> is independently H, C<sub>6</sub>-C<sub>20</sub> aryl or an amide protecting group;

R<sup>19</sup> is C<sub>1</sub>-C<sub>6</sub> alkylene;

each of R<sup>22</sup> and R<sup>25</sup> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl or an amide protecting group;

R<sup>14</sup> is H, C<sub>1</sub>-C<sub>6</sub> alkyl or an amine protecting group;

L is a linker comprising from 1 to about 20 atoms; and

each of m and n is independently an integer from 0 to 2.

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10  
41360  
45. The method of Claim 44, wherein said Fc receptor is selected from the group consisting of FcαR, FcεR, FcγR and mixtures thereof.  
15

46. The method of Claim 45, wherein said Fc receptor is selected from the group consisting of FcγRIIa, FcγRIIb, FcγRIIc and mixtures thereof.

47. The method of Claim 44, wherein said method reduces IgG-mediated tissue damage in said patient.  
20

48. The method of Claim 44, wherein said method reduces

inflammation in said patient.

49. The method of Claim 44, wherein said method is used to treat an autoimmune disease.

50. The method of Claim 44, wherein said method is used to  
5 treat a disease where aggregates of antibodies are produced or where immune complexes are produced by contact of antibody with intrinsic or extrinsic antigen.

51. The method of Claim 50, wherein said disease is selected from the group consisting of immune complex diseases, autoimmune diseases, infectious diseases and vasculitities.

52. The method of Claim 51, wherein said autoimmune disease is selected from the group consisting of rheumatoid arthritis, systemic lupus erythematosus, immune thrombocytopenia, neutropenia, and hemolytic anaemias.

15 53. The method of Claim 51, wherein said vasculitities is selected from the group consisting of polyarteritis nodosa, and systemic vasculitis.

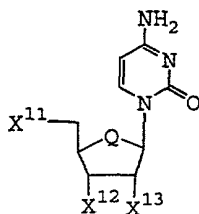
54. The method of Claim 44, wherein said method is used to treat xenograft rejection.

20 55. The method of Claim 51, wherein said infectious disease is selected from the group consisting of Dengue virus-dengue hemorrhagic fever and measles virus infection.

56. The method of Claim 44, wherein said method reduces IgE-mediated response in said patient.

57. The method of Claim 44, wherein said compound is selected from the group consisting of folic acid, 4-methyl benzoic acid, 3-methyl benzoic acid and a nucleoside or analogs thereof.

58. The method of Claim 57, wherein said nucleoside or analogs thereof is of the formula:



wherein.

Q is O or methylene;

$X^{11}$  is  $OR^{31}$  or  $OPO(OR^{31})_2$ ;

each of  $X^{12}$  and  $X^{13}$  is independently H or  $OR^{32}$ ; and

each of  $R^{31}$  and  $R^{32}$  is independently H or  $C_1-C_6$  alkyl.

59. The method of Claim 58, wherein Q is O.

60. The method of Claim 59, wherein  $X^{11}$  is OH.

61. The method of Claim 60, wherein  $X^{12}$  and  $X^{13}$  are H.

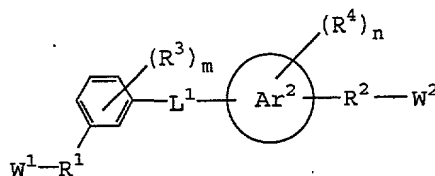
62. The method of Claim 60, wherein  $X^{12}$  and  $X^{13}$  are OH.

63. The method of Claim 60, wherein  $X^{12}$  is OH and  $X^{13}$  is H.

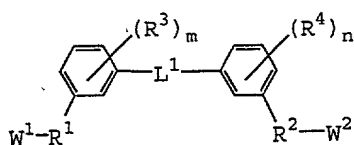
64. The method of Claim 59, wherein  $X^{11}$  is  $OPO_3H_2$ .

65. The method of Claim 64, wherein  $X^{12}$  and  $X^{13}$  are OH.

66. The method of Claim 44, wherein said compound is of the formula:



5 67. The method of Claim 66, wherein said compound is of the formula:



68. The method of Claim 67, wherein  $m$  and  $n$  are 0.

69. The method of Claim 68, wherein  $W^1$  and  $W^2$  are  $CO_2H$ .

70. The method of Claim 69, wherein  $R^1$  and  $R^2$  are a bond.

71. The method of Claim 70, wherein  $L^1$  is  $-CH_2CH_2-$ .

72. The method of Claim 70, wherein  $L^1$  is  $-CH_2O-$ .

73. The method of Claim 70, wherein  $L^1$  is  $-CH=CHC(=O)-$ .

74. The method of Claim 70, wherein  $L^1$  is  $-CH_2CH_2CH(OH)-$ .

15 75. The method of Claim 70, wherein  $L^1$  is  $-CH=CH-$ .

76. The method of Claim 70, wherein  $L^1$  is  $-CH(OH)CH(OH)-$ .

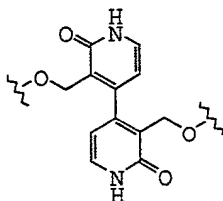
77. The method of Claim 76, wherein the stereochemistry of hydroxy groups is (S,S).

78. The method of Claim 70, wherein  $L^1$  is  $-CH_2N(R^{26})CH_2-$ ,

wherein  $R^{26}$  is H,  $C_1$ - $C_6$  alkyl or an amine protecting group.

79. The method of Claim 78, wherein  $R^{26}$  is  $-CH_2CO_2H$ .

80. The method of Claim 70, wherein  $L^1$  is a moiety of the formula:



81. The method of Claim 69, wherein  $R^1$  and  $R^2$  are  $-CH_2-$ .

82. The method of Claim 81, wherein  $L^1$  is ethylene.

83. The method of Claim 81, wherein  $L^1$  is  $-CH=CH-$ .

84. The method of Claim 69, wherein  $R^1$  is methylene,  $R^2$  is a bond and  $L^1$  is ethylene.

85. The method of Claim 68, wherein  $W^1$  and  $W^2$  are  $PO(OR^{15})_2$ , and  $R^1$  and  $R^2$  are a bond.

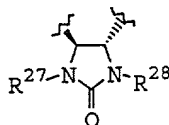
86. The method of Claim 85, wherein  $L^1$  is ethylene.

87. The method of Claim 86, wherein  $R^{15}$  is ethyl.

88. The method of Claim 86, wherein  $R^{15}$  is H.

89. The method of Claim 85, wherein  $L^1$  is a moiety of the

formula:

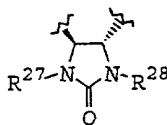


wherein

each of  $R^{27}$  and  $R^{28}$  is independently H,  $C_1-C_6$  alkyl,  $C_6-C_{10}$  aralkyl or a protecting group.

90. The method of Claim 89, wherein each of  $R^{27}$  and  $R^{28}$  is independently 4-methoxybenzyl or H.

91. The method of Claim 70, wherein  $L^1$  is a moiety of the formula:



wherein

each of  $R^{27}$  and  $R^{28}$  is independently H,  $C_1-C_6$  alkyl,  $C_6-C_{10}$  aralkyl or a protecting group.

92. The method of Claim 91, wherein each of  $R^{27}$  and  $R^{28}$  is independently 4-methoxybenzyl or H.

93. The method of Claim 68, wherein  $L^1$  is  $-CH=CH-$ ,  $W_1$  and  $W_2$  are  $C(=NH)NH(OH)$ , and  $R_1$  and  $R_2$  are bond.

94. The method of Claim 68, wherein  $L^1$  is  $-CH_2O-$ ,  $W_1$  and  $W_2$  are  $C(=O)CF_3$ , and  $R_1$  and  $R_2$  are bond.

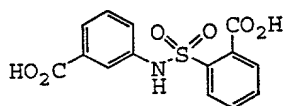
95. The method of Claim 68, wherein  $L^1$  is  $-CH_2CH_2-$ ,  $R_1$  and  $W_1$  together forms  $-(CH_2)_aCH(NHR^{29})CO_2H$ , wherein  $a$  is an integer from 0 to 2 and  $R^{29}$  is H,  $C_1-C_6$  alkyl or an amine protecting group.



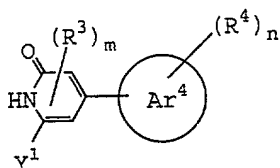
96. The method of Claim 95, wherein  $R_2$  and  $W_2$  together forms  $-(CH_2)_bCH(NHR^{30})CO_2H$ , wherein  $b$  is an integer from 0 to 2 and  $R^{30}$  is H,  $C_1$ - $C_6$  alkyl or an amine protecting group.

97. The method of Claim 96, wherein  $a$  and  $b$  are 1, and  $R^{29}$  and  $R^{30}$  are  $-C(=O)CH_3$ .

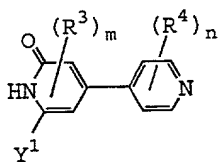
98. The method of Claim 66, wherein said compound is of the formula:



99. The method of Claim 44, wherein said compound is of the formula:



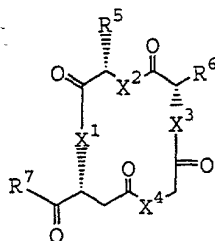
100. The method of Claim 99, wherein said compound is of the formula:



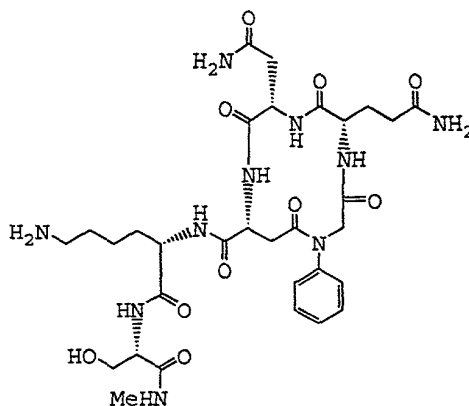
101. The method of Claim 100, wherein  $Y^1$  is  $-NH_2$ .

102. The method of Claim 101, wherein  $m$  and  $n$  are 0.

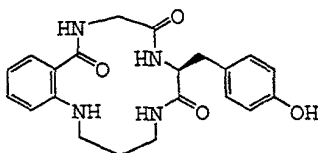
103. The method of Claim 44, wherein said compound is of the

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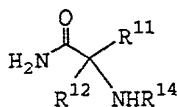
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107. The method of Claim 106, wherein  $R^{11}$  is lysine side chain residue,  $R^{12}$  is 2'-phenylethyl and  $R^{14}$  is  $-C(=O)CH_3$ .